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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,092	12/29/2000	Stacy S. Cook	86522/DAN	4028
1333	7590	03/07/2006	EXAMINER	
BETH READ PATENT LEGAL STAFF EASTMAN KODAK COMPANY 343 STATE STREET ROCHESTER, NY 14650-2201			SAFAIPOUR, HOUSHANG	
			ART UNIT	PAPER NUMBER
			2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,092

Applicant(s)

COOK ET AL

Examiner

Houshang Safaipoor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to applicant's request for reconsideration received on December 27, 2005.

Response to Arguments

The following is the response to applicant's arguments.

The claimed invention recites generation of shadow within a scanned area due to surface deviations associated with an edge of a document and one corresponding to surface deviations associated with a scanned non-edge feature. Non-edge features are defined in the applicant's specification as cracks, smudges, fingerprints, hairs, creases and similar surface deviations (page 5, lines 13-19). First limitation of claim 1 refers to shadow information corresponding to surface deviations within a scanned area. Fig. 5 of Sansom-Wai reference identifies shaded area 504 as unwanted background area which examiner interprets as a shadow generated by surface deviations. Applicant further argues that Feng et al. does not disclose or suggest detecting a shadow resulting from surface deviations. Examiner disagrees. Feng et al. discloses that "many sources can significantly contribute to variation seen in the data" (col. 5, lines 40-44). Feng identifies dust particles that can appear in the image as vertical dark streaks (interpreted as shadow) (col. 5, lines 48-53). Feng et al. also identifies other sources of variation that can cause a reflectance radiance to form near the document's edges, thereby causing edges to appear as ramps (interpreted as shadow formed near the edge) (col. 5, lines 54-63). Feng et al., by calculating the mean value and the standard deviations, differentiates between the two deviations and determines the edges of the document (col. 6, lines 17-47). For the reasons stated above examiner maintains his rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 5, 6, 8, 9, 11, 12, 13, 14, 16, 18, 19, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sansom-Wai et al. (U.S. Patent No. 6,310,984) in combination with Feng et al. (U.S. Patent No. 6,046,828).

Regarding claim 1, Sansom-Wai et al. discloses a method for detecting deviations in the surface of a document comprising:

scanning the document to create an image of the document, wherein said scanning is performed in a manner-configured for shadow information corresponding to surface deviations within a scanned area (col. 4, lines 8-44); and

Sansom-Wai does not explicitly disclose identifying at least one edge of the document, wherein said identifying includes differentiating between a shadow resulting from a surface deviation associated with said at least one edge and a shadow corresponding to a surface deviation associated with a scanned non-edge feature by recognize surface deviations in the image. Feng et al. discloses that “many sources can significantly contribute to variation seen in the data” (col. 5, lines 40-44). Feng identifies dust particles that can appear in the image as vertical dark streaks (interpreted as shadow) (col. 5, lines 48-53). Feng et al. also identifies other

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sources of variation that can cause a reflectance radiance to form near the document's edges, thereby causing edges to appear as ramps (interpreted as shadow formed near the edge) (col. 5, lines 54-63). Feng et al., by calculating the mean value and the standard deviations, differentiates between the two deviations and determines the edges of the document (col. 6, lines 17-47). Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to use Feng's method in differentiating between edge and non-edge surface deviations in Sansom-Wai invention for a more reliable process for detecting the edges not affected by noise or dust and/or dirt (also please refer to the response to the arguments given above).

Regarding claim 2, Sansom-Wai et al. discloses the method of Claim 1 further comprising discarding portions of the image that exist opposite to the identified edge of the document image (col. 8, lines 23-43).

Regarding claim 3, Sansom-Wai et al. discloses the method of Claim 2 further comprising presenting the non-discarded portions of the image (fig. 5 and fig. 6).

Regarding claim 5, Sansom-Wai et al. discloses the method of Claim 1 further comprises isolating the angle of identified edge (col. 8, lines 13-22).

Regarding claim 6 Sansom-Wai et al. discloses, the method of Claim 5 further comprises reducing the angle of the edge by rotating the image (fig. 5 and fig. 6)

Regarding claim 8, although Sansom-Wai et al. does not explicitly disclose inserting the document into a slide adapter prior to scanning, he discloses utilizing many different document carriers (col. 7, lines 40-41).

Regarding claim 9, Sansom-Wai et al. discloses the method of Claim 8, further

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comprising discarding the portions of the image associated with the image of the document carrier (col. 7, lines 40-67).

Regarding claims 11 and 12 arguments analogous to those presented for claims 1 and 5 are applicable to claims 11 and 12 respectively.

Regarding claim 13, Sansom-Wai et al. discloses the method of Claim 3, further comprising rotating the image to reduce the angle of the edge after isolating the angle of the deviation (fig. 5 and fig. 6).

Regarding claim 14, arguments analogous to those presented for claim 1 are applicable to claim 14.

Regarding claim 16, argument analogous to those presented for claim 8 are applicable to claim 16.

Regarding claim 18, Sansom-Wai et al. discloses the detector of Claim 14 further comprising a processor configured for creating an image of the document dependent upon said information and configured for automatically rotating the image of the document dependent upon at least one of said image information and said shadow information (fig. 5 and fig. 6).

Regarding claim 19, Sansom-Wai et al. discloses the detector of Claim 14 further comprising a processor for creating an image of the document capable of eliminating image not associated with the image (col. 7, lines 9-67).

Regarding claim 20, Sansom-Wai et al. discloses the detector of Claim 14 further comprising a processor for creating an image of the document capable of truncating information not associated with the document image (col. 7, lines 9-67).

Regarding claim 24, arguments analogous to those presented for claim 1 are applicable to

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claim 24.

Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of the known prior art.

Regarding claim 4, scanning of a document by infrared light is well known and routinely implemented in the art. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to use infrared light for illuminating the document to detect defects.

Regarding claim 15, argument analogous to those presented for claim 4 are applicable to claim 15.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of Liao (U.S. Patent No. 5,467,172).

Regarding claim 7, although Sansom-Wai et al. discloses a flat bed scanner (col. 5, lines 60-65), he does not explicitly disclose the method of Claim 1 further comprising illuminating the document with a transparency adapter. Liao discloses image scanner transparency adaptor suitable for use with flat bed scanners. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to use Liao's transparency adaptor with Sansom-Wai's scanner to illuminate the transparent document.

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Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of Arita et al. (U.S. Patent No. 6,493,061).

Regarding claim 10, Sansom-Wai et al. does not explicitly disclose the method of Claim 1, wherein said scanning includes scanning the document with a plurality of light sources;

Arita et al. discloses two illumination sources for identifying the defects (Abstract). Combination of these two references would identify and analyze the shadows created. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to combine Feng and Sansom-Wai's scanner with that of Arita to illuminate and analyze the transparent document.

Regarding claim 21, arguments analogous to those presented for claim 10 are applicable to claim 21.

Claims 17, 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of Hulan et al. (U.S. Patent No. 5,987,270).

Regarding claim 17, the combination does not explicitly disclose a light source positioned to create shadows that are detected by the sensor. Hulan et al. discloses such an apparatus (col. 10, lines 14-23). Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to include Hulan's design in Sansom-Wai's apparatus to detect and remove the shadow created by the illumination source.

Regarding claim 22, Sansom-Wai does not explicitly disclose the detector of Claim 14 wherein the scanner automatically initiates a high resolution scan. Hulan et al. discloses such an

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apparatus that performs pre scan and full scan of the document (col. 10, lines 23-28).

Regarding claim 23, manual overriding scanning operation is well known and routinely implemented in the art. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to include this feature in Sansom-Wai's device.

Regarding claim 25, Sansom-Wai does not explicitly disclose a high and a low resolution scan system. Hulan et al. discloses such a scanner system (col. 9, line 39 through col. 10, line 28). Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to combine Sansom-Wai's device with that of Hulan to generate shadow information within the scanned area (please refer to the arguments under claim 1).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Houshang Safaipour whose telephone number is (571)272-7412. The examiner can normally be reached on Mon.-Thurs. from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Houshang Safaipour
February 22, 2006



DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER